

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,161	08/23/2001	Steffen Geiger	740124-150	9221

22204 7590 07/18/2003

NIXON PEABODY, LLP  
8180 GREENSBORO DRIVE  
SUITE 800  
MCLEAN, VA 22102

EXAMINER

LUK, LAWRENCE W

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/935,161

Applicant(s)

GEIGER ET AL.

Examiner

Lawrence Luk

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomsen et al. (5,871,858).

In regard to claim 1, Thomsen et al. discloses the method as claimed. Specifically, Thomsen et al. shows a process for conducting operating heat of a semiconductor switch to a heating cell which is triggered by the semiconductor switch, comprising the steps of: providing a cooling fin on the semiconductor switch (refer to col.3, lines 1-3); placing said semiconductor switch over a surface of a first heat and current conducting material strip, said first heat and current conducting material strip being electrically connected to a supply voltage; placing said first heat and current conducting material strip over a surface of a second heat and current conducting material strip with a heat-conducting insulating film located between the first and second heat and current conducting material strips (refer to col.3, lines 4-35); placing said second heat and current conducting material strip on a surface of a frame terminal; providing a heating cell; electrically and thermally connecting said frame terminal to said heating cell; placing said frame terminal on a surface of a second heat-conducting insulating film; providing a supply terminal; and then placing said heat-conducting insulating film on a surface of said power supply terminal (refer to col.4, lines 22-42).

In regard to claim 2, Thomsen et al. shows a heating element comprising: a semiconductor switch for triggering a heating element, said semiconductor switch including a cooling fin (refer to col.3, lines 1-3 and col.11, lines 58-61), a first heat and current conducting material strip, said first heat and current conducting material strip being electrically connected to a supply voltage and being in contact with a surface of said semiconductor switch; a second heat and current conducting material strip, said first heat and current conducting material strip being positioned over a surface of said second heat and current conducting material strip (refer to col.3, lines 4-35); a first heat conducting thermally insulating film, said first heat conducting thermally insulating film being disposed between said first and second heat and current conducting material strips (refer to col.3, line 61 to col.4, line 4); a heating cell; a frame terminal, said frame terminal being electrically and thermally connected to said heating cell, said heat and current conducting material strip being positioned over a surface of said frame terminal; a power supply terminal; and a second heat conducting thermally insulating film, said second heat conducting thermally insulating film being disposed between said frame terminal and said power supply terminal (refer to col.4, lines 21-42).

In regard to claim 3, Thomsen et al. shows the first heat and current conducting material strip and said second heat and current conducting material strip each comprise electrocopper (refer to col.9, lines 24-27).

***Allowable Subject Matter***

3. Claims 4-8 are objected to as being dependent upon a rejected base claim. The prior art of record fails to teach or reasonably suggest that: Claim 4, the electrocopper has a thermal conductivity  $k = 400 \text{ W/mK}$  and a thickness of 1.0 mm. Claims 5-7 are dependent on claim 4.

Art Unit: 2838

Claim 8, the power supply terminal comprises nickel-plated brass. Claims 4-8 would be allowable if rewritten in independent from including all of the limitations of the base claim.

*Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Luk whose telephone number is (703)305-0617. The examiner can normally be reached on 7 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (703) 308-1680. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-7724 for regular communications and (703)305-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

LWL  
July 11, 2003

*Lawrence Luk*  
*examiner*  
*7/11/03*